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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/584,210

05/16/2007

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15455NP

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EXAMINER

IQBAL, SYED TAHA

ART UNIT

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1793

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DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/584,210	<b>Applicant(s)</b> PITIOT ET AL.	
	<b>Examiner</b> SYED IQBAL	<b>Art Unit</b> 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/23/2006</u> .  | 6) <input type="checkbox"/> Other: ____.                          |

## **DETAILED ACTION**

### ***Specification***

The disclosure is objected to because of the following informalities: spelling error on Pg 13 line 36, "liens" instead of *lines*.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Structural limitations regarding the device in a process claim are considered indefinite.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1-3, 5- 9, 12, 13 and 17-23 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Chan et al. US 2003/0203353.**

Chan et al. teaches. A method for monitoring time dependent reactions that comprise providing a flow channel in microscale dimension (Abstract). Further disclosed is that reagents are introduced into the flow channel. This reaction mixture is transported along a flow channel, past a detection zone which detects an extent of reaction (Para [0008]). The medium in one region of the microreactor is made to undergo steady-state flow. Access to at least one point in the flow is made using an analysis means. At least one quantity characteristic of the medium at this point or at several points is measured, using an analysis means, and characteristics representative of the conversion are determined according to the result of the or each measurement (Para [00336-0039]). Also taught is that access is made to various points in the flow, which are separated from each other both in time and in space (Para [0024]). The analysis means is displaced, while keeping the microreactor fixed (Para [0024]). The analysis means is nondestructive with respect to the reaction medium (Para [0037]). Access is made to each point across a zone, which is permeable to the analysis means (Para [0037]). The transformation or conversion can be physical or chemical (Para [0019]). The use of a laser is taught for detecting optically detectable events (Para [0038]). Also suggested is the use of an electrode or the like, to achieve physical contact with the contents of the flow channel. The use of a computer to direct flow during the reaction is also disclosed (Para [0032]).

Accordingly, the claims are anticipated by the reference. In any event, the claims would also be obvious over the reference since, anticipation is the epitome of obviousness.

**Claims 4, 10, 11, 16 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chan et al. US 2003/0203353.**

Regarding claim 4, the reference teaches moving the analyzer over the stationary microreactor. However, it does not expressly state moving microreactor under the stationary analyzer

At the time of invention it would have been obvious to one having an ordinary level of skill in the art to move the microreactor under the analyzer, instead of moving the analyzer over the microreactor. One would be motivated to do so because it would not lead to any unexpected results and would present the same effect.

Regarding claim 10, the reference teaches that the transformation or change is chemical. However, the reference is silent on which type of chemical change takes place.

At the time of invention it would have been obvious to one having an ordinary level of skill in the art to use the invention of Chan for any chemical process as this would not lead to any unexpected results.

Regarding claim 11, the reference teaches measuring properties in a micro flow channel. However, the reference is silent on the rate of volumetric flow through such a channel.

At the time of invention it would one having an ordinary level of skill in the art to perform routine experimentation to determine either a suitable or optimal flow rate from the process. One would be motivated to do so because the flow rate would not influence the analyzer function and would not lead to any unexpected results.

Regarding claim 16 and 24, the reference teaches using laser scanners which have the "controller/device" function provided. The instrument is integrated from microfluidic devices having sample sources incorporated therein. The device is also coupled with access to libraries of sample materials (Para [0038]). This would suggest that device can compare the measured value with a reference value in order to control the flow.

Regarding claims 25 and 26, the reference teaches the use of a controller/detector device with access to reference properties. This device is coupled to a main flow channel (Para [0030]-[0031]). Also taught is the desirability to monitor and regulate the flow through the flow channel, as this leads to greater control over the reaction time before detection (Para [0041]).

However, the reference does not expressly state that a value of the function of a ratio between said measured value and the reference value was used to modify the flow. The inner workings of the device are not disclosed.

At the time of invention it would have been obvious to use a value of the function of the ratio of the reference and measured values. The device is a controller and a detector. Therefore, it has to use some calibrated function to detect and modify the flow.

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One skilled in the art would have been able to perform routine experimentation to determine such a function of the two values.

**Claims 14, 15, 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chan et al. US 2003/0203353, in view of Yamamoto et al. US 2002/0094303.**

Chan et al. does not expressly state the use of multiple reactors.

Yamamoto et al. teaches a method and reactor for chemical reaction analysis (Abstract). Also taught is that the number of reactors is not limited and a plurality of reactors may be used. Yamamoto teaches using the plural reactors in parallel to each other. The plurality of reactors is integrally incorporated (Para [0130]-[0132]).

At the time of invention it would have been obvious to one having an ordinary level of skills in the art to substitute plural reactors as taught by Yamamoto in the process of Chan. One would be motivated to do so because it would enable the processing of various simultaneous operations (Yamamoto Para [0131]).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SYED IQBAL whose telephone number is (571)270-5857. The examiner can normally be reached on Monday to Thursday 7:30am EST to 6:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley S. Silverman can be reached on 5712721358. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Wayne Langel/  
Primary Examiner, Art Unit 1793

/S. I./  
Examiner, Art Unit 1793